

CORRECTED VERSION

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
20 October 2005 (20.10.2005)

PCT

(10) International Publication Number
WO 2005/097073 A1

(51) International Patent Classification⁷: **A61K 9/14**, 9/20,
9/22, 9/48, 9/52, 9/66, 9/70, A61F 2/00

(21) International Application Number:
PCT/US2005/010801

(22) International Filing Date: 30 March 2005 (30.03.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/558,047 31 March 2004 (31.03.2004) US

(71) Applicant (*for all designated States except US*): **UNIVERSITY OF UTAH RESEARCH FOUNDATION** [US/US];
c/o Technology Transfer Office, 615 Arapeen Drive, Suite
310, Salt Lake City, UT 84108 (US).

(72) Inventors; and

(75) Inventors/Applicants (*for US only*): **WANG, Dong**
[CN/US]; 1004 University Village, Salt Lake City, UT
84108 (US). **KOPECEK, Jindrich** [CZ/US]; 1103 Alton
Way, Salt Lake City, UT 84108 (US). **MILLER, Scott, C.**
[US/US]; 2693 Glenmare Street, Salt Lake City, UT 84106
(US). **KOPECKOVÁ, Pavla** [CZ/US]; 1103 South Alton
Way, Salt Lake City, UT 84108 (US).

(74) Agents: **TURNER, Allen, C.** et al.; P.O. Box 2550, Salt
Lake City, UT 84110 (US).

(81) Designated States (*unless otherwise indicated, for every
kind of national protection available*): AE, AG, AL, AM,

AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ,
TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA,
ZM, ZW.

(84) Designated States (*unless otherwise indicated, for every
kind of regional protection available*): ARIPO (BW, GH,
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,
FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO,
SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN,
GQ, GW, ML, MR, NE, SN, TD, TG).

Declaration under Rule 4.17:

— *of inventorship (Rule 4.17(iv)) for US only*

Published:

— *with international search report*

(48) Date of publication of this corrected version:

8 December 2005

(15) Information about Correction:

see PCT Gazette No. 49/2005 of 8 December 2005, Sec-
tion II

*For two-letter codes and other abbreviations, refer to the "Guid-
ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.*

(54) Title: MACROMOLECULAR DELIVERY SYSTEMS FOR NON-INVASIVE IMAGING, EVALUATION AND TREAT-
MENT OF ARTHRITIS AND OTHER INFLAMMATORY DISEASES

(57) Abstract: This invention relates to biotechnology, more particularly, to water-soluble polymeric delivery systems for the imag-
ing, evaluation and/or treatment of rheumatoid arthritis and other inflammatory diseases. Using modern MR imaging techniques,
the specific accumulation of macromolecules in arthritic joints in adjuvant-induced arthritis in rats is demonstrated. The strong cor-
relation between the uptake and retention of the MR contrast agent labeled polymer with histopathological features of inflammation
and local tissue damage demonstrates the practical applications of the macromolecular delivery system of the invention.



WO 2005/097073 A1